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A LIST OF INDIANA ANTS.

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Many years ago Mr. W. S. Blatchley sent me for identification a number of ants collected in various parts of the state of Indiana. Owing to lack of funds, my report on these insects was never published. Although the list of species is undoubtedly incomplete, it seems advisable to print it, with such changes as the advances in taxonomy have rendered necessary, because it contains a number of locality records that may be useful in future studies of the geographical distribution of our North American ants.

FAMILY FORMICIDÆ

SUBFAMILY PONERINÆ

Genus *Stigmatomma* Roger.

1. *S. pallipes* Haldeman. ♀—Wyandotte.

A rather rare species which nests in small colonies in rich, damp woods, under stones, leaf-mold, or more rarely under logs.

Genus *Proceratium* Roger.

2. *P. silaceum* Roger subsp. *rugulosum* Wheeler. ♀ ♀—

Rarer than the preceding; nesting in rotten logs.

Genus *Ponera* Latreille.

3. *Ponera coarctata* Latr. subsp. *pennsylvanica* Buckley ♀—Grand Chain; Wyandotte.

Rather common; nesting in the same situations as *Stigmatomma pallipes*.

SUBFAMILY MYRMICINÆ

Genus *Myrmicina* Curtis.

4. *M. graminicola* Latr. subsp. *americana* Emery. ♀—Wyandotte.

Rare; nesting in small colonies under stones and in rotten wood in shady forests.

Genus *Monomorium* Mayr.

5. *M. minimum* Buckley ♀ ♀ ♂—Shoals; Grand Chain.

This minute black ant inhabits small, clustered crater nests in rather dry, sandy or gravelly soil. The workers forage in files, visiting plants in search of the excreta of plant-lice, the secretions of extra-floral nectaries and dead insects.

Genus *Solenopsis* Westwood.

6. *S. molesta* Say ♀—Wyandotte; Pine; Veedersburg.

A minute yellow species, with 2-jointed antennal clubs, common in open grassy places where it lives in independent formicaries or more commonly as a thief-ant in the walls separating the galleries in the nests of larger ants belonging to the genera *Formica*, *Lasius*, *Myrmica*, *Aphaenogaster*, etc. It is also known to occur in houses. The males and females are much larger and of a darker color than the workers.

Genus *Crematogaster* Lund.

7. *C. lineolata* Say. ♀—Pine; Mitchell; Grand Chain; Veedersburg; Tippecanoe Lake; Culver; Wyandotte; Hammond; Arlington; Vincennes; Shoals; DeLong; Mt. Vernon; Bass Lake; Kosciusko County; Crawford County.

A very common and widely distributed species, nesting under stones in open places, under stumps, boards, the bark of old logs, etc. The workers have a disagreeable odor and move about in loose files. They sometimes carry the triangular gaster over the thorax with the tip directed forward. Owing to this habit the species of *Crematogaster* have been called "acrobat" ants.

8. *C. lineolata* var. *cerasi* Fitch ♀ ♀—Knox County; Wyandotte; Veedersburg.

Merely a yellowish form of the preceding species.

Genus *Aphaenogaster* Mayr.

9. *A. fulva* Roger subsp. *aquia* Buckley. ♀ ♀ ♂—Mt. Vernon; Vincennes; Wyandotte; Knox County.

Common in shady woods, nesting under stones and logs.

10. *A. tennesseensis* Mayr ♀—Wyandotte; Shoals; Vincennes.

Easily distinguished from the preceding by its deep red color, the long epinotal spines in both workers and females and the small size and polished surface of the latter. This species is a temporary social parasite on *A. aquia*.

Genus *Myrmica* Latreille.

11. *M. scabrinodis* Nylander var. *sabuleti* Meinert ♀—Vawter Park.

A very common ant, nesting in dry, open fields and along roads.

Genus *Leptothorax* Mayr.

12. *L. curvispinosus* Mayr ♀—Arlington; Tippecanoe Lake; Vawter Park; Veedersburg.

This small yellow ant nests in small colonies in hollow twigs and old galls in rather damp, shady woods.

13. *L. fortinodis* Mayr var. *melanoticus* Wheeler ♀—Wyandotte; Marion County.

Nesting in small colonies in the bark of trees.

Subgenus *Dichothorax* Emery.

- 14.
- L. (D.) pergandei*
- Emery ♀—Wyandotte.

A southern species, not before known to extend its range as far north as Indiana. It nests in the ground, under stones or moss in rather dry, open places.

SUBFAMILY DOLICHODERINAE.

Genus *Dolichoderus* Lund.Subgenus *Hypoclinea* Mayr.

- 15.
- D. (H.) mariae*
- Forel var.
- blatchleyi*
- var. nov. ♀—Bass Lake; Hammond.

Eight workers from these localities differ from the typical *mariae* of the Atlantic States in having the head and thorax of a deeper, more brownish red color, the yellow gastric spots smaller, the tibiae and distal ends of the femora black and the base of the epinotum somewhat less convex. This form seems to represent a transition to *D. plagiatus* subsp. *pustulatus* Mayr (possibly a hybrid!).

- 16.
- D. (H.) plagiatus*
- Mayr subsp.
- pustulatus*
- Mayr var.
- beutenmuelleri*
- Wheeler ♀—Hammond.

Like the preceding, this variety nests in the ground but forms much less populous colonies.

Genus *Tapinoma* Förster.

- 17.
- T. sessile*
- Say ♀—DeLong; Bass Lake; Marion County.

A very common species, easily recognized by its strong odor like that of rancid butter. It nests under stones, boards, etc. in dry, sunny places. The larvæ and pupæ are salmon-colored. The nests sometimes contain one or more specimens of a beautiful myrmecophilous Staphylinid beetle, *Nototaphra lauta* Casey.

SUBFAMILY CAMPONOTINAE

Genus *Brachymyrmex* Mayr.

- 18.
- B. heeri*
- Forel subsp.
- depilis*
- Emery ♀—Knox County.

The smallest of our ants. It nests under stones in shady woods and attends root-coccids like the species of *Acanthomyops*. The pupæ are enclosed in cocoons.

Genus *Prenolepis* Mayr.

- 19.
- P. imparis*
- Say.

Not recorded from Indiana but undoubtedly occurring in the state as it is common in Illinois and the Atlantic States. It forms crater nests in oak woods. The workers often distend the gaster with honey dew to such an extent that they may be regarded as honey ants.

- 20.
- P. imparis*
- var.
- minuta*
- Emery ♀.—Hammond; Wyandotte.

Merely a small variety of the preceding.

Subgenus *Nylanderia* Emery

- 21.
- P. (N.) parvula*
- Mayr ♀—Hammond.

Nests under stones in small colonies in rather dry, sunny places. It is easily distinguished from the preceding species by its smaller size and the blunt hairs covering the body. The pupæ are naked.

Genus *Lasius* Fabricius.

- 22.
- L. niger*
- L. var.
- neoniger*
- Emery ♀—Shoals; Arlington.

This form of the circumpolar *L. niger* is properly subboreal, being most abundant in British America and on mountains in the United States. The females and workers are easily recognized by the suberect hairs on the antennal scapes and tibiae.

- 23.
- L. niger*
- . L. susp.
- alienus*
- Förster var.
- americanus*
- Emery ♀ ♂—Hammond; Vawter Park; Veedersburg; Knox County; Grand Chain.

This is the most abundant of all our ants, occurring over the whole of North America except the arctic and extreme southern and southwestern portions. It is distinguished from the typical *niger* of Eurasia and the preceding variety by the absence of suberect hairs on the tibiae and antennal scapes in the female and worker. Like all of our species and varieties of *Lasius*, *americanus* is much given to cultivating root-coccids and root-aphids, but, with the exception of *neoniger*, it is the only one of our forms that is not exclusively subterranean in its habits. It may often be seen visiting the foliage of trees and bushes in search of small insects. Prof. A. S. Forbes and other have shown that it is of considerable economic importance on account of its injurious habit of cultivating the root-aphids of maize (*Aphis maidradicis*).

Subgenus *Formicina* Shuckard.

- 24.
- L. (F.) flavus*
- DeGeer subsp.
- nearcticus*
- Wheeler.

Not recorded from Indiana but undoubtedly occurring in the state. It nests under stones in shady woods.

- 25.
- L. (F.) brevicornis*
- Emery.—

Not recorded from Indiana but undoubtedly occurring in the state. It nests under stones on dry open hill slopes.

- 26.
- L. (F.) umbratus*
- Nylander subsp.
- mixtus*
- Nylander var.
- aphidicola*
- Walsh.

Common in Illinois and the Eastern States and undoubtedly occurring in Indiana. It nests under stones or in earthen mounds in rather damp situations.

Subgenus *Acanthomyops* Mayr.

- 27.
- L. (A.) claviger*
- Roger ♀—Stark County.

The yellow *Lasius* of this subgenus are all subterranean, or "hypogæic" ants which attend aphids and coccids on the roots of plants and are easily

distinguished from the species of *Lasius sensu stricto* and *Acanthomyops* by their peculiar and rather agreeable odor like that of oil of citronella or lemon verbena. *L. claviger* nests under old logs or stones in open woods.

28. *L. (A.) latipes* Walsh ♀—Delong.

This species has two kinds of females, one of which has the legs much flattened and dilated and the hind tibiae shorter than the fore tibiae, while the other resembles the female of *claviger*.

Genus *Formica* L.

29. *F. truncicola* Nylander subsp. *obscuriventris* Mayr ♀—Tippecanoe Lake.

This species forms populous colonies in woods under stones, which it banks with vegetable detritus.

30. *F. truncicola* subsp. *integra* Nylander ♀—Camelton; Wyandotte.

The largest and most conspicuous of our eastern forms of *truncicola*, forming great colonies, often comprising several nests under piles of stones, in old logs, etc. The ants stuff all the crannies of their abodes with bits of dead leaves, grass, etc. Like most other species *Formica integra* is much given to attending aphids. It is most abundant in hilly regions, where it prefers sunny glades or clearings in forests.

31. *F. ulkei* Emery ♀—Tippecanoe Lake.

This species, originally described from South Dakota, belongs to the boreal fauna. It is known also to occur in Illinois, Nova Scotia and New Brunswick. It constructs rather flat mound nests smaller than those of the mound-building ant of the Alleghanies (*F. exsectoides* Ford) which very probably also occurs in Indiana.

32. *F. ulkei* var. *hebesceus* Wheeler ♀—Bass Lake; Stark County.

This form was originally described from specimens sent me by Mr. Blatchley from these localities.

33. *F. fusca* L. var. *subsericea* Say ♀—Camelton; Hammond; Veedersburg; Wyandotte; Vawter Park; Arlington; Pine; Culver; Tippecanoe Lake; Shoals; Bass Lake.

With the exception of *Lasius americanus*, this is the most abundant of our ants. It is easily recognized by its deep black color and silky pubescence. It prefers sunny, grassy places and either constructs flat, dome-shaped mounds, which are largest and most definite in outline in the Middle Western States, or excavates its galleries and chambers under stones, logs, etc. It is a very cowardly insect, except when living in large colonies.

34. *F. cinerea* Mayr var. *neocinerea* Wheeler ♀—Wilders.

Not hitherto known to occur east of northern Illinois where it is common (Rockford, Chicago). It lives in open grassy places, often in boggy meadows, usually in nests like those of *F. subsericea*.

Subgenus *Neoformica* Wheeler.

35. *F. (N.) pallide-fulva* Latreille subsp. *schaufussi* Mayr ♀—Pine; Shoals; Hammond; Wyandotte; New Harmony.

One of our commonest ants; living in rather small colonies under stones or in obscure crater nests in sunny fields. It is timid and runs very rapidly. Its food consists very largely of the excreta of plant lice and dead insects.

36. *F. (N.) pallide-fulva* subsp. *nitidiventris* Emery ♀—Hammond; Kosciusko County; Marion County.

Common, with habits similar to those of *schaufussi*.

Subgenus *Proformica* Ruzsky.

37. *F. (P.) neogagates* Emery ♀—Tippecanoe Lake.

A highland or subboreal form, which nests under stones or in obscure craters in rather small colonies.

Genus *Polyergus* Latreille

38. *P. lucidus* Mayr ♀—Pine.

This rare and beautiful red ant, the "shining slave-maker" of MacCook, or "shining amazon" as it may be called, uses the workers of *Formica schaufussi* as slaves, or auxiliaries. These are bred from pupæ kidnaped from their maternal nests by the war-like *lucidus* workers. The latter are quite unable to feed themselves, excavate nests or care for their own brood, but depend for these important services on the *schaufussi* workers. Hence the shining amazons are unable to lead an independent life and may be regarded as permanently parasitic on fragments of *schaufussi* colonies which they bring together with great skill.

Genus *Camponotus* Mayr.

39. *C. castaneus* Latreille ♀ ♀ ♂—Camelton; Pine; Vincennes; New Harmony; Mt. Vernon; Grand Chain; Mitchell; Hammond; Wyandotte.

This appears to be a common species in Indiana, although it is very rare in the Eastern States north of New Jersey. It is easily distinguished from our other *Camponoti* by the pure reddish yellow color of the worker and female forms and the pale males. It nests in the ground under stones.

40. *C. castaneus* subsp. *americanus* Mayr. ♀ ♂—Wyandotte; Mitchell; Hammond; Camelton.

The soldiers and workers of this form, though variable in color always have the head black. It nests under stones like the typical form of the species.

41. *C. herculeanus* L. subsp. *pennsylvanicus* DeGeer ♀ ♀ ♂—DeLong; Vincennes; Knox; Mitchell; New Harmony; Culver; Tippecanoe Lake; Grand Chain; Wyandotte; Arlington; Stark County.

This is the common "carpenter ant," a large, entirely black species which usually nests in old logs and stumps in shady woods. It may migrate into old farm houses and suburban residences and become a pest by riddling the wood-work with its inosculating galleries and by visiting pantries and kitchens in search of sweets.

42. *C. herculeanus* subsp. *pennsylvanicus* var. *ferrugineus* Fabricius ♀.—New Harmony; Grand Chain; Vincennes; Mitchell; Wyandotte.

A beautiful color-variety of *pennsylvanicus*, with the legs, inferior and posterior portions of the thorax, petiole and base of gaster rust red in the worker and female. Its habits closely resemble those of the typical form, but it seems to be less abundant and more local in its distribution.

43. *C. herculeanus* subsp. *ligniperda* Latreille var. *nove boracensis* Fitch ♀ ♂—Pine; Tippecanoe Lake; Hammond.

Nesting in old stumps and logs like *pennsylvanicus*, but differing in the smoother surface and entirely red thorax of the worker.

44. *C. caryae* Fitch ♀—Wyandotte.

The types of this species, which I have recently found in the U. S. National Museum prove to be identical with the form called by Emery *C. emarginatus* Latr. var. *nearcticus*. Later it was shown by Emery that Nylander's name *fallax* should replace *emarginatus*. Now the unfortunate substitution of *caryae* as the name of the species is necessitated by the fact that Fitch described his *Formica caryae* in 1854, whereas Nylander did not give the name *fallax* to the common European form of the species till 1856. The latter form therefore becomes *C. caryae* Fitch var. *fallax* Nylander.

C. caryae nests in dead branches. It is entirely black and much smaller than *C. pennsylvanicus*, from which it may also be distinguished by the notch in the anterior border of the clypeus of the worker and female.

45. *C. caryae* var. *minutus* Emery ♀—Camelton; Grand Chain.

Smaller than the preceding, with more or less red on the thorax of the worker.

46. *C. caryae* var. *decipiens* Emery.

Cited by Emery from Indiana. His specimens were received from Mr. Theo. Pergande, portions of whose original series are now in the U. S. National Museum.